



Find Someone Who....



- Find a student who can explain and model each of the items shown below.
- Ask him or her to write the verbal description and sketch a model in the appropriate spaces and to sign his or her name.
- Each student may only answer one item on your paper.

can model $-4 + (-3)$ using a number line.	can model the difference of $-2 - (-1)$ using 2-color counters.
Verbal Description:	Verbal Description:
Model:	Model:
Signature:	Signature:

can model the quotient of $-12 \div 6$ using 2-color counters.	can model the product of $3(-2)$ using a number line.
Verbal Description:	Verbal Description:
Model:	Model:
Signature:	Signature:



Unit 1 Lesson 4

Rational Problem Match Recording Sheet

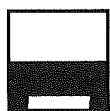
- Cut apart **Expression Cards**.
- Match the expression card with the problem and attach the cards to the table. Complete the table.

Problem	Expression	Will the answer be positive or negative? Why?	Process and Solution
The water level in an aquarium drops $\frac{1}{2}$ inch each day. How many days will have elapsed by the time the water level has dropped a total of $2\frac{1}{2}$ inches?			
A stock dropped \$2.50 each day for 2 days. What was the total change in price?			
Russell owes \$2.50 to the cafeteria. If he pays half of what he owes, what is his current balance?			
An airplane is $\frac{1}{2}$ kilometer above sea level. A shipwreck is $2\frac{1}{2}$ kilometers directly below the airplane. What is the elevation of the shipwreck?			
The temperature dropped 2°F the first hour and $2\frac{1}{2}^{\circ}\text{F}$ the second hour. What was the total change in temperature over the 2 hours?			

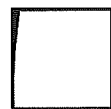
Math Quilt

20.8	$-2\frac{1}{8}$	$-1\frac{13}{25}$
-260	-14.212	$-\frac{1}{2}$
24.876	$2\frac{2}{15}$	-4.84

Shade the square containing the answer as indicated by the given pattern block.



1 $-\frac{1}{2} + \left(-1\frac{5}{8}\right)$



6 $\left(-\frac{4}{7}\right) \cdot \frac{7}{8}$



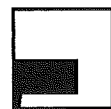
2 $-13.8 + 34.6$



7 $-7.8 \div 0.03$



3 $2.56 - 7.4$



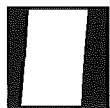
8 $3\frac{4}{5} \div \left(-2\frac{1}{2}\right)$



4 $1\frac{1}{3} - \left(-\frac{4}{5}\right)$



9 $-3.6 \times (-6.91)$



5 $(6.8)(-2.09)$



Unit 1 Lesson 4

Independent Practice

Addition and Subtraction Rules:

- Adding 2 rational numbers with like signs – add the numbers and keep the sign.
- Adding 2 rational numbers with different signs – subtract the numbers. The sign will come from the rational number whose distance from zero is greater.
- Subtracting 2 rational numbers – rewrite as the related addition problem then follow addition rules.

Examples:

$$\begin{array}{lll} -4\frac{1}{3} + \left(-6\frac{1}{2}\right) & -3.4 - 1\frac{3}{4} & -3.4 - \left(-2\frac{2}{5}\right) \\ -4\frac{2}{6} + \left(-6\frac{3}{6}\right) = -10\frac{5}{6} & -3.4 + \left(-1\frac{3}{4}\right) & -3.4 - (-2.4) \\ & -3.4 + (-1.75) = -5.15 & -3.4 + 2.4 = -1 \end{array}$$

Multiplication/Division Rules:

- When 2 rational numbers having the same sign are multiplied or divided, the result will be a positive rational number.
- When 2 rational numbers having different signs are multiplied or divided, the result will be a negative rational number.

Examples:

$$(-2.1)(-3.2) = 6.72 \qquad 0.75 \div (-1.2) = -0.625$$

1 $-18 + 15 - 6 =$

2 $(-3)(2)(-2) =$

3 $-108 \div (-4) =$

4 $24 - 6 - 30 =$

5 The temperature dropped $4\frac{1}{2}^{\circ}\text{F}$ the first hour, rose $2\frac{3}{4}^{\circ}\text{F}$ the second hour, and dropped $6\frac{1}{8}^{\circ}\text{F}$ the third hour. What was the total change in temperature over the 3 hours?



- 6 Jayne's peanut butter cookie recipe calls for 1 cup peanut butter, $\frac{1}{4}$ cup flour, $\frac{2}{3}$ cup of sugar, and a few other ingredients. If Jayne's recipe makes 1 dozen cookies, how many cups of peanut butter, flour, and sugar are needed to make $4\frac{1}{2}$ dozen peanut butter cookies?

7 $(-3.75)\left(4\frac{3}{5}\right)$

8 $(-3) \div \left(-1\frac{5}{7}\right)$

9 $-3.25 - (-2.76)$

10 $2\frac{5}{9} + \left(-6\frac{2}{3}\right)$

- 11 A fisherman is $4\frac{1}{4}$ feet above sea level. His crab net is $7\frac{5}{6}$ feet directly below the fisherman.

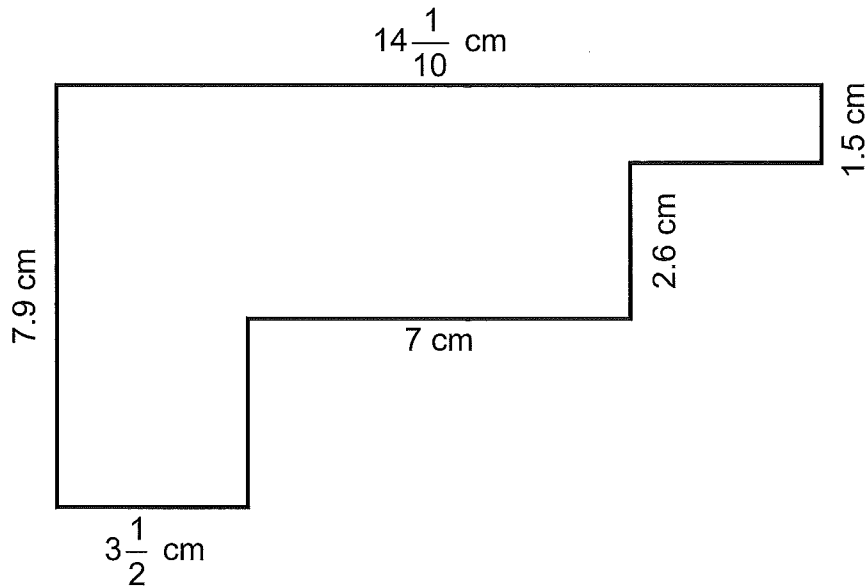
a) Write an equation to determine e , the elevation of the crab net.

b) What is the elevation of the crab net?



Unit 1 Lesson 4

12 Find the perimeter and area of the region shown below.



13 Jordan has an average score of 9.0 on the 4 equestrian jumps she has completed. Her lowest score is 7.2.

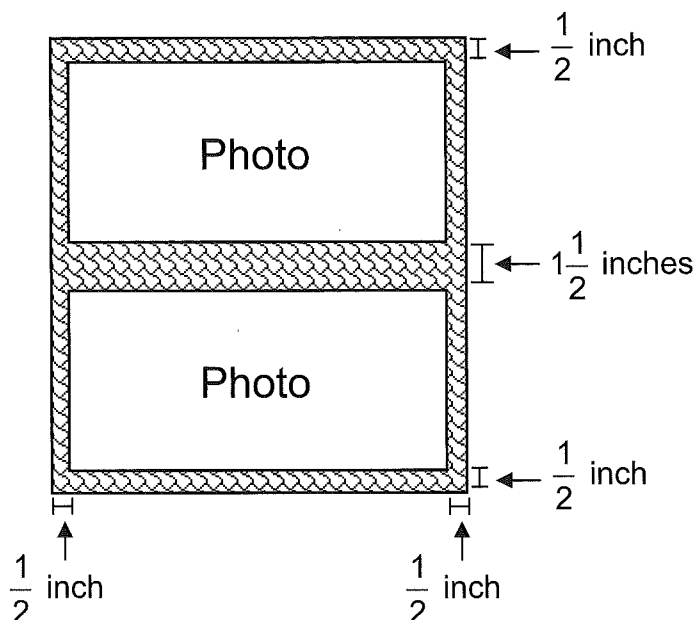
a) Write an equation that could be used to determine s , Jordan's new average score if the lowest score is dropped.

b) What is Jordan's new average score?



Photo Crop

Amelia plans to use an 11 inch by 12 inch decorative sheet of paper to create the scrapbook page shown below.



If Amelia uses the same size photos for the layout, what are the dimensions of the photos? Justify your answer.

FOR TEACHER USE ONLY:

a. YES NO Student arrives at a correct solution?

	4	3	2	1
b. Conceptual Knowledge				
c. Procedural Knowledge				
d. Communication				



Unit 1 Lesson 4

- 1 John, Dwayne, and Michael ate lunch at Burger Bill's. The total bill, including tax, was \$22.95. John paid \$5.50, Dwayne paid $\frac{1}{3}$ of the bill, and Michael paid the rest of the bill. Which equation can be used to find m , the amount of money that Michael paid on the bill?

- A $m = 22.95 - \frac{1}{3}(22.95)$
- B $m = 22.95 - \left(5.50 + \frac{22.95}{3}\right)$
- C $m = 22.95 - \frac{1}{3}(22.95) + 5.50$
- D $m = 22.95 - 12$

- 2 Which expression does NOT give the same result as $-4 + 6 - 8$?

- A $(-36) \div 6$
- B $(-2)(-3)$
- C $30 + (-36)$
- D $-18 - (-12)$

- 3 Lesly ran $4\frac{3}{4}$ kilometers on Tuesday, $2\frac{2}{3}$ kilometers on Thursday, and $2\frac{1}{6}$ kilometers on Saturday. If she wants to run a total of 12 kilometers each week, how many more kilometers does Lesly need to run this week to reach her goal?

- A $9\frac{7}{12}$ kilometers
- B $3\frac{1}{2}$ kilometers
- C $3\frac{5}{12}$ kilometers
- D $2\frac{5}{12}$ kilometers

- 4 The temperature in Stillwater, New York, was -18°F on Friday, and the temperature was 2°F on Saturday. How much cooler was the temperature on Friday than on Saturday?

- A 20°F
- B 16°F
- C -16°F
- D -20°F